

Serial No.: 10/642,878

Applicant: Jagdeep Singh Sahota, et al.

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

Claims 1-13 (Cancelled).

Claim 14 (Currently Amended): A method comprising a plurality of steps, each being performed by hardware executing software, wherein the steps include:

generating a verification value in response to a transaction involving a mobile electronic device, wherein the verification value is generated by: using unique transaction data for the transaction;

creating a base record comprising:

 digits for an application transaction counter overlaying the left most digits of a primary account number corresponding to an account upon which the transaction is being conducted, wherein the application transaction counter is incremented for each said transaction; and

 concatenated to the right most digits of the primary account number:

 a card security code for the primary account number; and

 an expiration date for the primary account number;

 bisectioning the base record into a first field and a second field;

 encrypting the first field using a first encryption key;

performing an exclusive-OR (XOR) operation on the encrypted first field and the second field to produce a first result;

encrypting the first result using a second encryption key to produce a second result;

decrypting the second result using a decryption key to produce a third result;

encrypting the third result using a third encryption key to produce a fourth result;

sequentially extracting each value between 0 and 9 from the most-significant digit to the least-significant digit of the fourth result to produce a fifth result;

sequentially extracting and subtracting hexadecimal A from each value between hexadecimal A and hexadecimal F from the most-significant digit to the least-significant digit of the fourth result to produce the sixth result;

concatenating the fifth result and the sixth result to produce a seventh result; and

selecting one or more values from the seventh result as the verification value;

and

sending the verification value for delivery to [[a]] the service provider with data in a magnetic stripe data format so that the service provider can verify the verification value.

Claim 15 (Currently Amended): The method of claim 14 wherein the base record has a length equal to the number of digits of the primary account number corresponding to the account upon which the transaction is being conducted.

~~the unique transaction data for the transaction comprises:~~

~~a time of day for the transaction; and~~

~~a transaction amount for the transaction.~~

Claim 16 (Currently Amended): The method of claim 15, wherein the base record has a length of 128 bits. ~~the time of day for the transaction corresponds to a timestamp for the transaction.~~

Claim 17 (Currently Amended): The method of claim 14 wherein the steps further include a determination that a transaction amount for the transaction exceeds a predetermined threshold value prior to the generation of the verification value. ~~is also generated using at least one static data element selected from the group consisting of an expiration date, a service code, an account number, and a combination thereof.~~

Claim 18 (Currently Amended): The method of claim 14 wherein the steps further comprise[[ing]] a determination, prior to the generating of the verification value, that there is an occurrence of an event selected from the group consisting of: ~~a transaction amount for the transaction exceeds a predetermined threshold value; and a geographic location of the transaction corresponds to a predetermined geographic location.~~

Claim 19 (Previously presented): The method of claim 14 wherein:

the verification value is generated on the mobile electronic device;

the transaction is a payment transaction; and

the mobile electronic device is a payment device.

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Claim 20 (Previously presented): The method of claim 14 wherein the sending of the verification value for delivery to the service provider comprises the mobile electronic device transmitting the verification value to a point of sale terminal via wireless communications.

Claim 21 (Currently amended): The method of claim 19 wherein the mobile electronic payment device is selected from the group consisting of an integrated circuit card, a smartcard, a memory card, a cellular telephone, a personal digital assistant, and a computer.

Claims 22-49 (Cancelled)

Claim 50 (Currently amended): A method comprising a plurality of steps each being performed by hardware executing software, wherein the steps include:

generating, at a point of sale terminal, unique transaction data for a transaction being processed by the point of sale terminal;

sending, from the point of sale terminal in a wireless communication, the unique transaction data for the transaction;

receiving, at a mobile electronic device, the unique transaction data for the transaction;
creating, at the mobile electronic device, a base record comprising:

digits for an application transaction counter overlaying the left most digits of a primary account number corresponding to an account upon which the transaction is being conducted, wherein the application transaction counter is incremented for each said transaction; and

concatenated to the right most digits of the primary account number;
a card security code for the primary account number; and

an expiration date for the primary account number;
splitting, at the mobile electronic device, the base record into a first field and a second
field;

encrypting, at the mobile electronic device, the first field using a first encryption key;
performing, at the mobile electronic device, an exclusive-OR (XOR) operation on the
encrypted first field and the second field to produce a first result;
encrypting, at the mobile electronic device, the first result using a second encryption key
to produce a second result;

decrypting, at the mobile electronic device, the second result using a decryption key to
produce a third result;

encrypting, at the mobile electronic device, the third result using a third encryption key to
produce a fourth result;

sequentially extracting, at the mobile electronic device, each value between 0 and 9 from
the most-significant digit to the least-significant digit of the fourth result to produce a fifth result;
sequentially extracting and subtracting, at the mobile electronic device, hexadecimal A
from each value between hexadecimal A and hexadecimal F from the most-significant digit to
the least-significant digit of the fourth result to produce the sixth result;

concatenating, at the mobile electronic device, the fifth result and the sixth result to
produce a seventh result; and

selecting, at the mobile electronic device, one or more values from the seventh result as a
verification value;

sending, from the mobile electronic device, data in a magnetic stripe data format that
includes the verification value; and

receiving, at the point of sale terminal in a wireless communication, the data in a magnetic stripe data format, ~~wherein: the data is in the magnetic strip data format includes a verification value; and the verification value is generated by use of the unique transaction data for the transaction;~~

and

transmitting, from the point of sale terminal, the verification value for delivery to [[a]] the service provider so that the service provider can verify the verification value.

Claim 51 (Currently amended): The method as defined in Claim 50, wherein the base record has a length equal to the number of digits of the primary account number corresponding to the account upon which the transaction is being conducted.

~~the unique transaction data for the transaction comprises:~~
~~a time of day for the transaction; and~~
~~a transaction amount for the transaction.~~

Claim 52 (Currently amended): The method as defined in Claim 51, wherein the base record has a length of 128 bits. the time of day for the transaction corresponds to a timestamp for the transaction.

Claim 53 (Currently amended): The method as defined in Claim 50, wherein the steps further include a determination that a transaction amount for the transaction exceeds a predetermined threshold value prior to the generation of the verification value, is also generated

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~~using at least one static data element selected from the group consisting of an expiration date, a service code, an account number, and a combination thereof.~~

Claim 54 (Currently amended): The method as defined in Claim 50, wherein the steps further comprise~~[[ing]]~~ a determination, prior to the sending, receiving and transmitting, ~~there is an occurrence of an event selected from the group consisting of:~~

~~a transaction amount for the transaction exceeds a predetermined threshold value; and that a geographic location of the transaction corresponds to a predetermined geographic location.~~

Claim 55 (Currently Amended): The method as defined in Claim 50, wherein:

the transaction is a payment transaction;

the verification value is generated by ~~[[a]]~~ the mobile electronic device in response to the transaction at the point of sale terminal; and

the mobile electronic device is in communication with the point of sale terminal; and the mobile electronic device is a payment device.

Claim 56 (Previously presented): The method as defined in Claim 55, wherein the payment device is selected from the group consisting of an integrated circuit card, a smartcard, a memory card, a cellular telephone, a personal digital assistant, and a computer.

Claim 57 (Previously presented): The method as defined in Claim 50, wherein each said wireless communication is selected from a group consisting of a laser transmission, a radio

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frequency transmission, an infrared transmission, a Bluetooth transmission, and a wireless local area network transmission.

Claim 58 (Currently Amended): An apparatus for processing a transaction between a consumer and a merchant, the apparatus point of sale terminal comprising:

means for generating unique transaction data for the transaction;

means for wirelessly sending the unique transaction data for the transaction for delivery to a mobile electronic device;

means for wirelessly receiving data in a magnetic stripe format that includes a verification value ~~generated by the mobile electronic device from the unique transaction data for the transaction in response to the transaction~~;

and

means for transmitting the verification value for delivery to a service provider so that the service provider can verify the verification value, wherein the verification value is generated by:

creating a base record comprising:

digits for an application transaction counter overlaying the left most digits of a primary account number corresponding to an account upon which the transaction is being conducted, wherein the application transaction counter is incremented for each said transaction that is conducted; and

concatenated to the right most digits of the primary account number:

a card security code for the primary account number; and

an expiration date for the primary account number;

splitting the base record into a first field and a second field;

encrypting the first field using a first encryption key;
performing an exclusive-OR (XOR) operation on the encrypted first field and the
second field to produce a first result;
encrypting the first result using a second encryption key to produce a second
result;
decrypting the second result using a decryption key to produce a third result;
encrypting the third result using a third encryption key to produce a fourth result;
sequentially extracting each value between 0 and 9 from the most-significant digit
to the least-significant digit of the fourth result to produce a fifth result;
sequentially extracting and subtracting hexadecimal A from each value between
hexadecimal A and hexadecimal F from the most-significant digit to the least-significant
digit of the fourth result to produce the sixth result;
concatenating the fifth result and the sixth result to produce a seventh result; and
selecting one or more values from the seventh result as the verification value.

Claim 59 (Currently amended): The apparatus as defined in Claim 58, wherein the base
record has a length equal to the number of digits of the primary account number corresponding to
the account upon which the transaction is being conducted.

unique transaction data for the transaction comprises:
a time of day for the transaction; and
a transaction amount for the transaction.

Claim 60 (Currently amended): The apparatus as defined in Claim 59, wherein the base record has a length of 128 bits. ~~the time of day for the transaction corresponds to a timestamp for the transaction~~.

Claim 61 (Currently amended): The apparatus as defined in Claim 58, wherein further comprising means for determining that a transaction amount for the transaction exceeds a predetermined threshold value, wherein the generating of the means for generating, the receiving of the means for receiving, and the transmitting of the means for transmitting occur after the determining means determines that the transaction amount for the transaction exceeds the predetermined threshold value. ~~the verification value is also generated using at least one static data element selected from the group consisting of an expiration date, a service code, an account number, and a combination thereof~~.

Claim 62 (Currently amended): The apparatus as defined in Claim 58, further comprising means for determining that whether an event has occurred, wherein ~~the event selected from the group consisting of:~~ a transaction amount for the transaction exceeds a predetermined threshold value; and a geographic location of the transaction corresponds to a predetermined geographic location; and wherein the generating of the means for generating, the receiving of the means for receiving, and the transmitting of the means for transmitting occur after the determining means determines that the geographic location of the transaction corresponds to the predetermined geographic location ~~event has occurred~~.

Claim 63 (Previously presented): The apparatus as defined in Claim 58, wherein:

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the transaction is a payment transaction; and

the mobile electronic device is a payment device.

Claim 64 (Previously presented): The apparatus as defined in Claim 63, wherein the payment device is selected from the group consisting of an integrated circuit card, a smartcard, a memory card, a cellular telephone, a personal digital assistant, and a computer.

Claim 65 (Previously presented): The apparatus as defined in Claim 64, wherein each said wireless communication is selected from a group consisting of a laser transmission, a radio frequency transmission, an infrared transmission, a Bluetooth transmission, and a wireless local area network transmission.